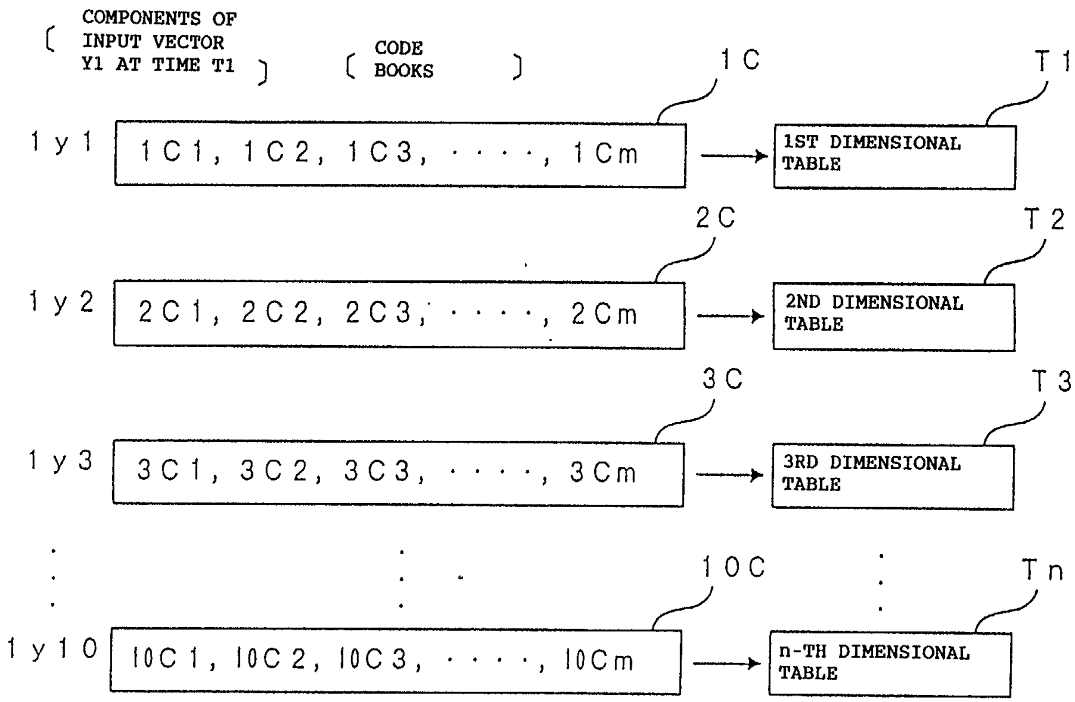
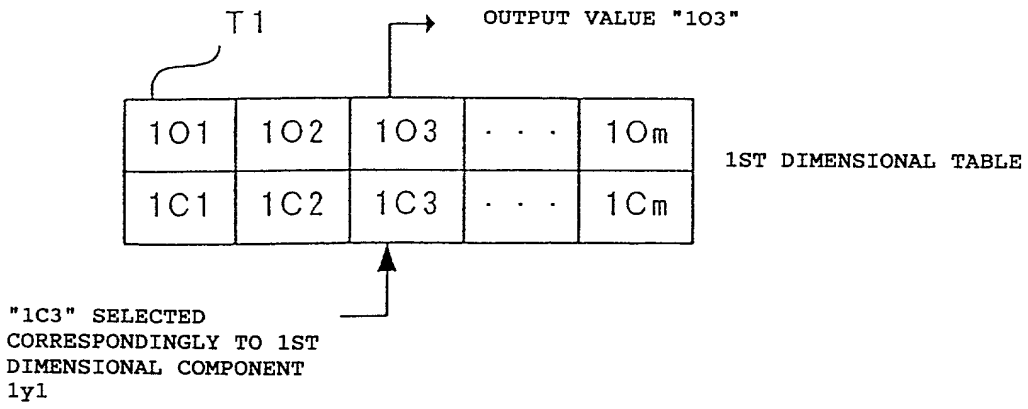
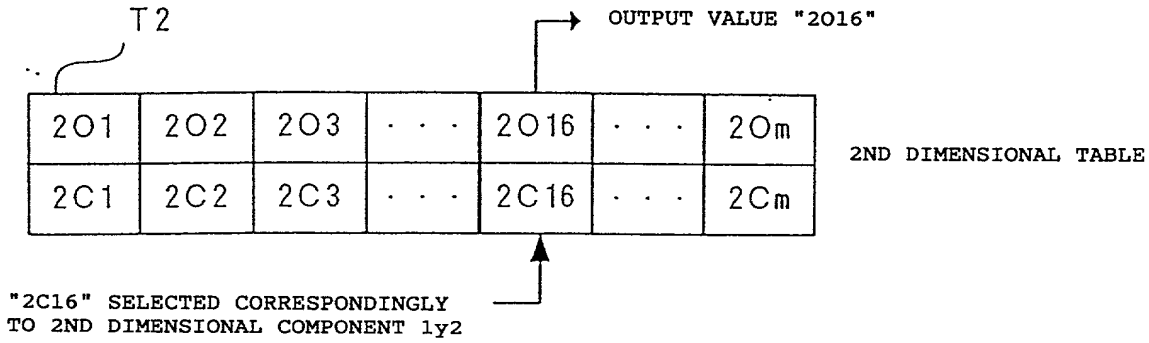

COMPONENTS OF INPUT VECTOR Y1 AT TIME T1
CODE BOOKS
1C
T1
1y1
1C1, 1C2, 1C3, ····, 1Cm
1ST DIMENSIONAL TABLE
2C
T2
1y2
2C1, 2C2, 2C3, ····, 2Cm
2ND DIMENSIONAL TABLE
3C
T3
1y3
3C1, 3C2, 3C3, ····, 3Cm
3RD DIMENSIONAL TABLE
10C
Tn
1y10
10C1, 10C2, 10C3, ····, 10Cm
n-TH DIMENSIONAL TABLE

FIG. 1


T1
OUTPUT VALUE "1O3"
1O1
1O2
1O3
· · ·
1Om
1C1
1C2
1C3
· · ·
1Cm
1ST DIMENSIONAL TABLE
"1C3" SELECTED CORRESPONDINGLY TO 1ST DIMENSIONAL COMPONENT 1y1

(a)


T2
OUTPUT VALUE "2O16"
2O1
2O2
2O3
· · ·
2O16
· · ·
2Om
2C1
2C2
2C3
· · ·
2C16
· · ·
2Cm
2ND DIMENSIONAL TABLE
"2C16" SELECTED CORRESPONDINGLY TO 2ND DIMENSIONAL COMPONENT 1y2

(b)

FIG. 2

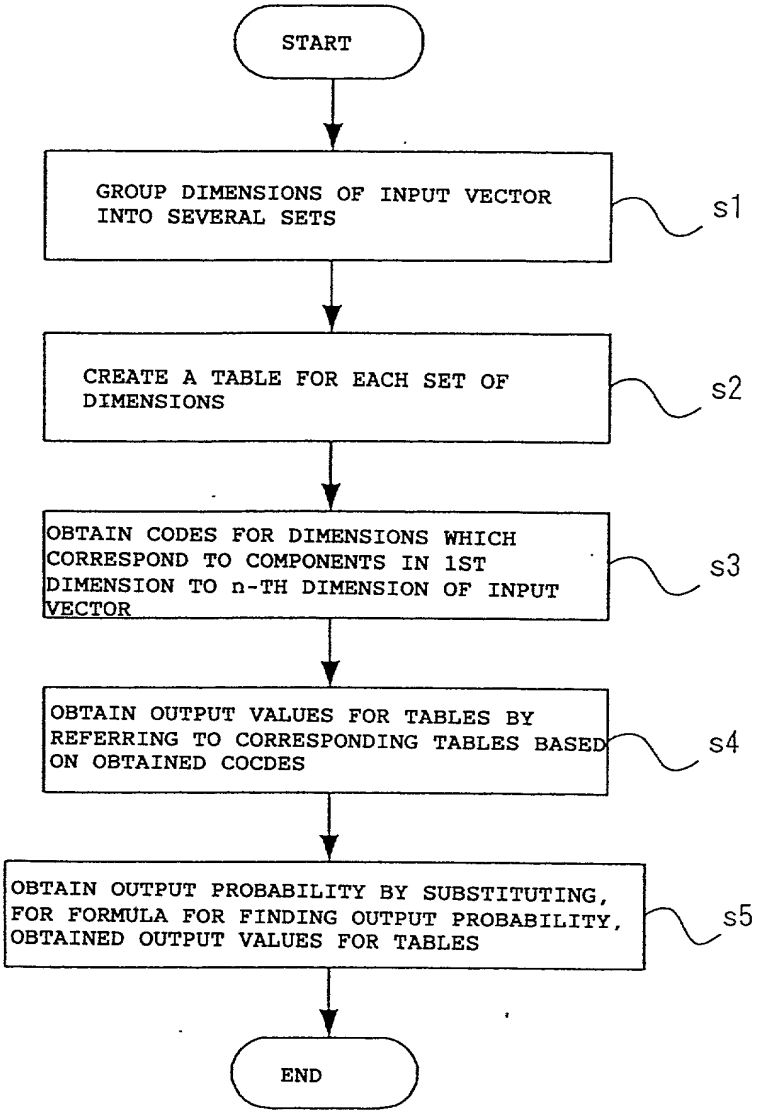

START
GROUP DIMENSIONS OF INPUT VECTOR INTO SEVERAL SETS
s1
CREATE A TABLE FOR EACH SET OF DIMENSIONS
s2
OBTAIN CODES FOR DIMENSIONS WHICH CORRESPOND TO COMPONENTS IN 1ST DIMENSION TO n-TH DIMENSION OF INPUT VECTOR
s3
OBTAIN OUTPUT VALUES FOR TABLES BY REFERRING TO CORRESPONDING TABLES BASED ON OBTAINED COCDES
s4
OBTAIN OUTPUT PROBABILITY BY SUBSTITUTING, FOR FORMULA FOR FINDING OUTPUT PROBABILITY, OBTAINED OUTPUT VALUES FOR TABLES
s5
END

FIG. 3

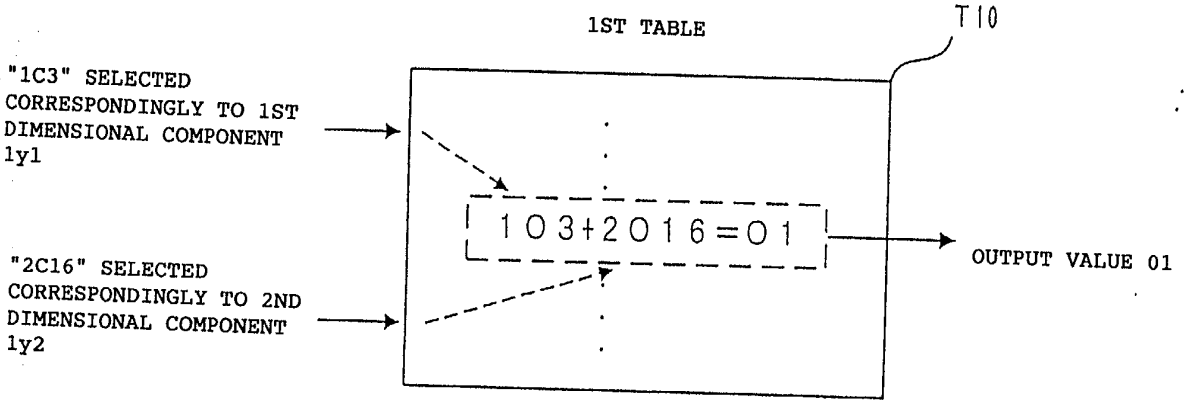


FIG. 4

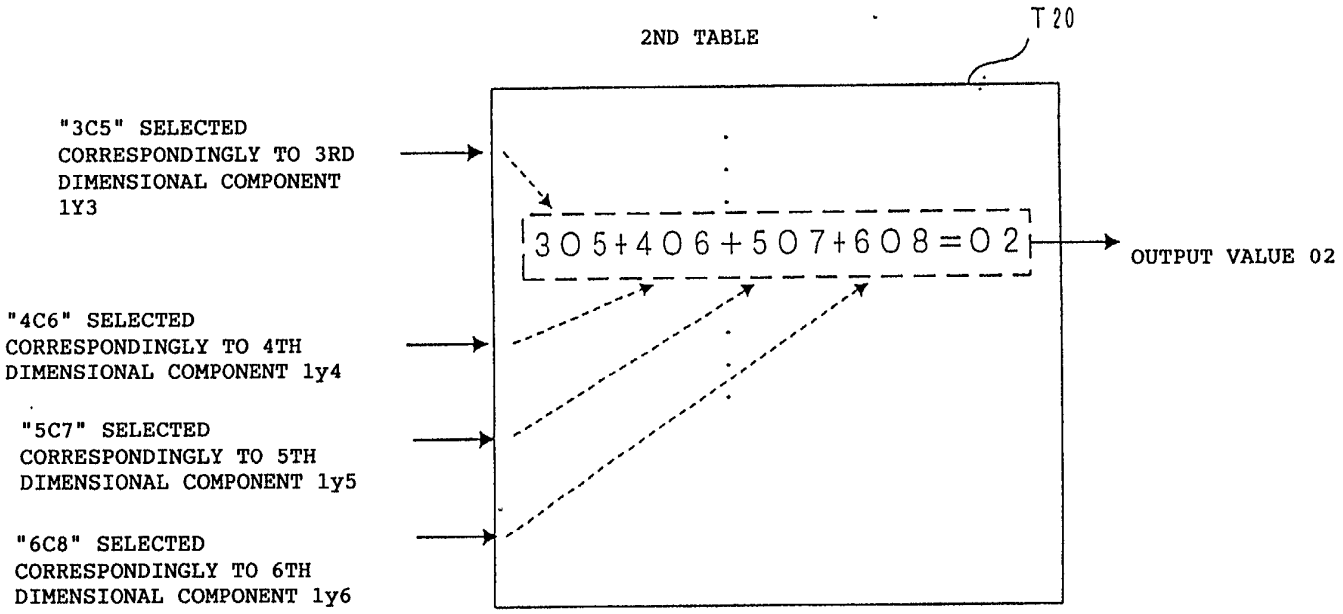


FIG. 5

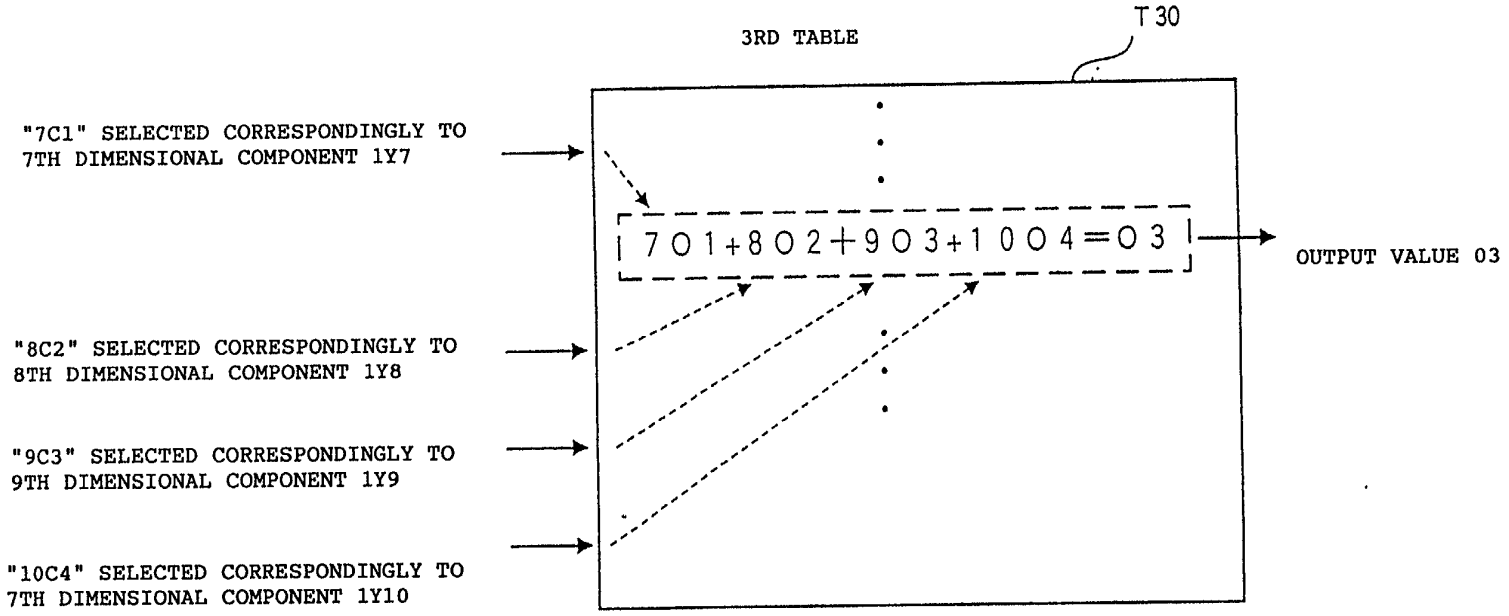


FIG. 6

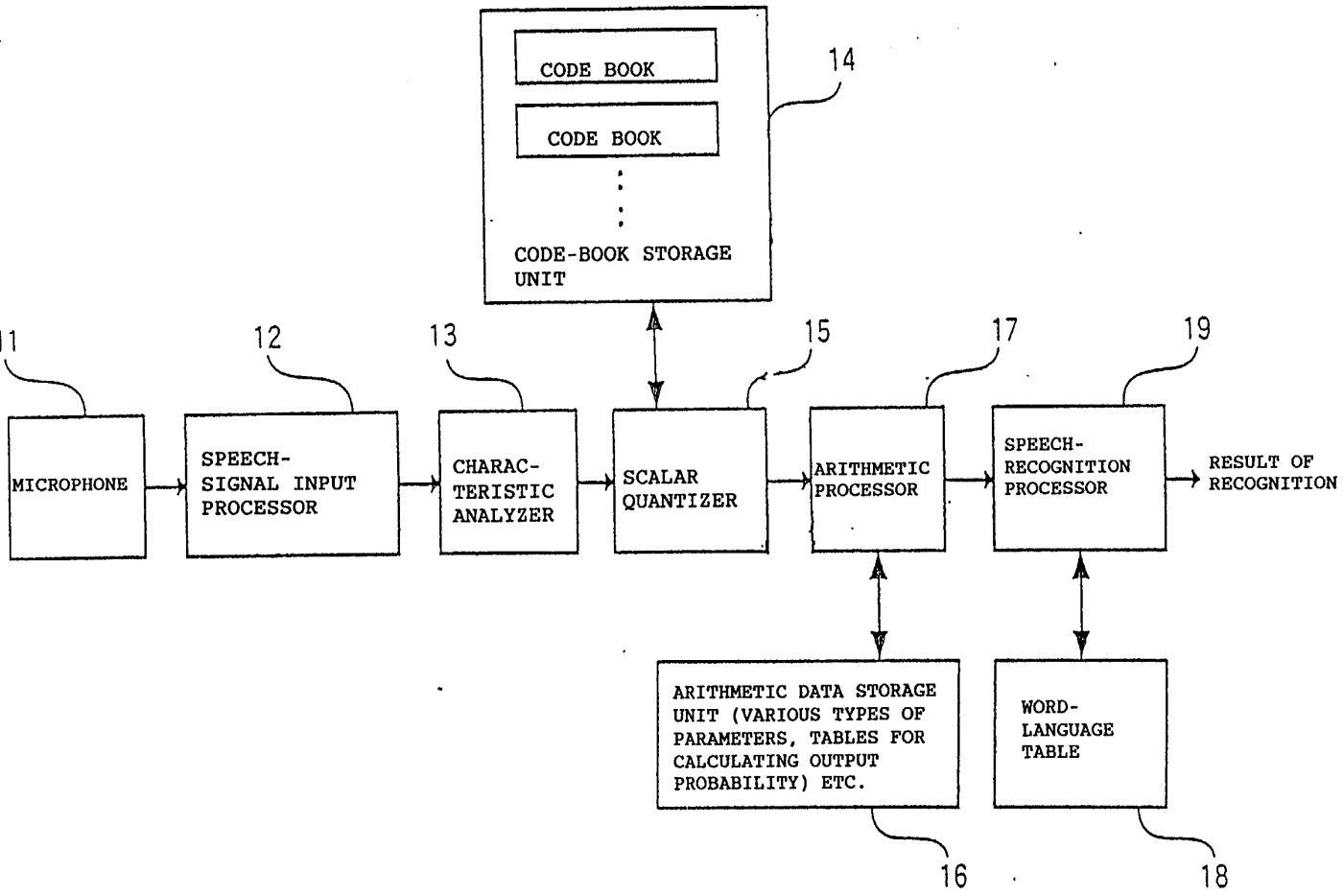


FIG. 7

EXPRESSION 1

$$b_{ij}(Y) = \prod_{k=1}^{n} \left(\frac{1}{2\pi\sigma_{ij}(k)^2} \right)^{\frac{1}{2}} \bullet e^{-\sum_{k=1}^{n} \left[\frac{\{y_k - \mu_{ij}(k)\}^2}{2\sigma_{ij}^2(k)} \right]} \qquad (1)$$

EXPRESSION 2

$$\ell og_x b_{ij}(Y) = \underbrace{\ell og_x \left[\prod_{k=1}^{n} \left(\frac{1}{2\pi\sigma_{ij}^2(k)} \right)^{\frac{1}{2}} \right]}_{A} - \underbrace{\sum_{k=1}^{n} \left[\frac{\{y_k - \mu_{ij}(k)\}^2}{2\sigma_{ij}^2(k)} \right] \bullet \ell og_x e}_{B} \qquad (2)$$

B´

EXPRESSION 3

$$\ell og_{x} b_{ij}(Y) = A - \underbrace{\sum_{k=1}^{n} \overbrace{\left[\frac{\{y_k - \mu_{ij}(k)\}^2}{2\sigma_{ij}^2(k)} \bullet Z \right]}^{B'}}_{B} \quad (3)$$

EXPRESSION 4

$$\log_{x} b_{ij}(\dot{Y}) = A - \underbrace{\sum_{k=1}^{n}\left[\frac{\{kC_{c} - \mu_{ij}(k)\}^{2}}{2\sigma_{ij}^{2}(k)} \bullet Z\right]}_{E} \qquad (4)$$

D

EXPRESSION 5

$$W_{ijm} \bullet b_m(Y) = W_{ijm} \bullet \prod_{k=1}^{n} \left(\frac{1}{2\pi\sigma_m^2(k)} \right)^{\frac{1}{2}} \bullet e^{-\sum_{k=1}^{n} \left[\frac{\{y_k - \mu_m(k)\}^2}{2\sigma_m^2(k)} \right]} \qquad (5)$$

EXPRESSION 6

$$\log_x W_{ijm} \bullet b_m$$

$$= \log_x W_{ijm} + \underbrace{\log_x \left[\prod_{k=1}^{n} \left(\frac{1}{2\pi\sigma_m^2(k)} \right)^{\frac{1}{2}} \right]}_{A} - \underbrace{\overbrace{\sum_{k=1}^{n} \left[\frac{\{y_k - \mu_m(k)\}^2}{2\sigma_m^2(k)} \right]}^{B'} \bullet \log_x e}_{B} \qquad (6)$$

EXPRESSION 7

$$\ell og_{x}W_{ijm} \bullet b_{m} = \ell og_{x}W_{ijm} + A - \underbrace{\overbrace{\sum_{k=1}^{n}\left[\frac{\{y_{k} - \mu_{m}(k)\}^{2}}{2\sigma_{m}^{2}(k)} \bullet Z\right]}^{B'}}_{B} \quad (7)$$

EXPRESSION 8

$$\ell og_x W_{ijm} \bullet b_m = \ell og_x W_{ijm} + A - \underbrace{\sum_{k=1}^{n} \overbrace{\left[\frac{\{kC_c - \mu_m(k)\}^2}{2\sigma_m^2(k)} \bullet Z \right]}^{D}}_{E} \qquad (8)$$